

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 25

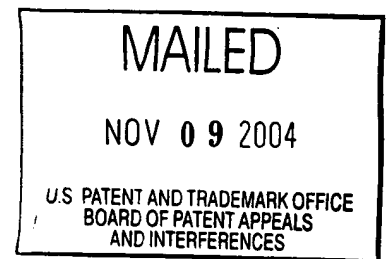
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte JEAN FRANCOIS BENOIST

Appeal No. 2004-1419  
Application 09/733,041

ON BRIEF



Before FRANKFORT, McQUADE, and NASE, Administrative Patent Judges.

FRANKFORT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 through 39, all of the claims pending in this application.

Appellant's invention relates to a swirling effect nozzle for an aerosol receptacle, which nozzle is designed to provide a

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spray that is more opaque, that drifts downwards, and that gives a more gentle impression than that produced by prior art aerosol receptacles containing a liquefied propellant gas. Independent claim 1 is representative of the subject matter on appeal, and a copy of that claim, as reproduced from the Appendix to appellant's brief, is attached to this decision.

The prior art references of record relied upon by the examiner in rejecting the claims before us on appeal are:

Burke et al. (Burke)	4,071,196	Jan. 31, 1978
Heeb et al. (Heeb)	4,322,037	Mar. 30, 1982
Lund	5,711,488	Jan. 27, 1998

Claims 15 and 39 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which appellant regards as the invention.

Claims 1, 3, 5, 7, 10 through 12, 23, 33 and 34 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Lund.

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Claims 2, 4, 6, 8, 9 and 24 through 32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lund.

Claims 13 through 22 and 35 through 39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lund in view of Heeb.

Claims 1 through 39 additionally stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Burke.

Rather than reiterate the conflicting viewpoints advanced by the examiner and appellant regarding the above-noted rejections, we refer to the answer (Paper No. 15, mailed October 2, 2002) for a full exposition of the examiner's position, and to appellant's brief (Paper No. 14, filed August 15, 2002) and reply brief (Paper No. 16, filed November 29, 2002) for the arguments thereagainst.

OPINION

Having carefully reviewed the indefiniteness, anticipation and obviousness issues raised in this appeal in light of the record before us, we have made the determinations which follow.

Looking first to the examiner's rejection of claims 15 and 39 under 35 U.S.C. § 112, second paragraph, we note that claim 15 sets forth a receptacle "according to claim 13, containing a propellant gas constituted by a non-liquefied compressed gas," and claim 39 sets forth a receptacle "according to claim 15, containing compressed air." The examiner is of the view that claim 15 is indefinite because of the recitation therein of a broad range or limitation (i.e., "propellant gas") together with a narrow range or limitation (i.e., "constituted by a non-liquefied compressed gas"). Like appellant (brief, page 6), we are of the opinion that claim 15 is clear and definite, and unambiguously defines an aerosol receptacle as recited in claim 13 that contains a propellant gas which is specifically limited to being a non-liquefied compressed gas. Thus, we find that the metes and bounds of this claim are set forth with a reasonable

degree of specificity and, for that reason, will not sustain the examiner's rejection of claim 15 under 35 U.S.C. § 112, second paragraph.

However, we agree with the examiner that claim 39 on appeal is indefinite, since it appears that the "compressed air" recited in claim 39 is provided in the receptacle in addition to the non-liquefied compressed gas set forth in claim 15. Contrary to appellant's view, noted on page 6 of the brief, claim 39 does not set forth that the gas of claim 15 is compressed air, but instead merely recites a receptacle as in claim 15 "containing compressed air." If appellant intended to further limit the non-liquefied gas of claim 15, then claim 39 should have been directed to a receptacle according to claim 15 wherein said non-liquefied compressed gas is compressed air. In light of the foregoing, the examiner's rejection of claim 39 under 35 U.S.C. § 112, second paragraph, will be sustained.

Turning next to the examiner's rejection of claims 1, 3, 5, 7, 10 through 12, 23, 33 and 34 under 35 U.S.C. § 102(b) as being anticipated by Lund, we note that while it is true that the Lund patent teaches a swirling effect nozzle (Figs. 1-4) having

substance feed channels (46) opening out into a swirling chamber (42) communicating with an outlet orifice (44), we find no disclosure in this reference of a specific example that falls within the claimed ranges set forth in claim 1 on appeal. In that regard, we consider that although Lund indicates that the individual vane exit area (EA) may generally be within the range of about  $0.02 \text{ mm}^2$  and about  $0.07 \text{ mm}^2$  (col. 5, lines 62-64), and makes mention of a nozzle insert which has at least two spaced grooves or vanes (col. 4, lines 42-45), it also expressly seeks to provide an atomized liquid spray from a manually-actuated pump dispenser having a 40 micron or less mean particle size with a required activation liquid pressure below 200 psig. To that end, Lund expresses a preference for an atomizing nozzle having a cumulative vane exit area (i.e., a summation of the individual vane exit areas EA) in a range of between about  $0.18 \text{ mm}^2$  and about  $0.36 \text{ mm}^2$ , a swirl chamber diameter CD in a range of between about 1.3 mm and about 2.0 mm and a discharge orifice diameter of about 0.35 mm so as to obtain the desired spray at the specified activation pressure level. See, e.g., col. 2, line 53 through col. 3, line 8 and col. 6, lines 5-17 of Lund.

Like appellant, we find the examiner's arbitrary selection of the smallest individual exit area ( $0.02 \text{ mm}^2$ ) for the vanes in Lund and the fewest number of vanes (two) to provide a nozzle having a cumulative vane exit area of only  $0.04 \text{ mm}^2$  (and ratio values within the ranges set forth in claim 1 on appeal) to be contrary to the clear teachings of the Lund patent and so far outside the range of cumulative vane exit areas indicated by Lund as to make it highly unlikely that such a nozzle would even be capable of producing an atomized liquid spray from a manually-actuated pump dispenser having a 40 micron or less mean particle size with a required activation liquid pressure below 200 psig, as mandated by Lund. Thus, in the final analysis, we share appellant's view that Lund fails to disclose the claimed subject matter set forth in independent claim 1 on appeal with sufficient specificity as to constitute anticipation under the statute. For that reason, we will not sustain the examiner's rejection of claims 1, 3, 5, 7, 10 through 12, 23, 33 and 34 under 35 U.S.C. § 102(b) as being anticipated by Lund.

Nor will we sustain the examiner's rejection of dependent claims 2, 4, 6, 8, 9 and 24 through 32 under 35 U.S.C. § 103(a) as being unpatentable over Lund alone or that of claims 13

through 22 and 35 through 39 under 35 U.S.C. § 103(a) as being unpatentable over Lund in view of Heeb. Absent hindsight gained from first having read appellant's disclosure and claims, we find no teaching, suggestion or motivation for attempting to modify the nozzle and manually-actuated pump dispenser of Lund in the manner proposed by the examiner. Indeed, it appears to us that when read as a whole, Lund would teach against such modifications.

The last of the examiner's rejections for review on appeal is that of claims 1 through 39 under 35 U.S.C. § 103(a) as being unpatentable over Burke. In this instance, the examiner contends (answer, page 7) that although Burke does not disclose the ratios set forth in the claims on appeal or the ranges of swirl chamber diameter, exit area of the channels, or exit orifice diameter, it would have been obvious that one of ordinary skill in the art, depending on the product being sprayed and the pressures and particle size wanted, would determine the above-noted parameters to be employed "since Burke discloses that these parameters are important to achieve a desired spray (see column 1, lines 42-57 and column 3, lines 27-40)." Absent hindsight, we see no basis in the broad teachings of Burke for modifying the nozzle therein



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in a manner that would arrive at the nozzle (claim 1), dispenser head (claim 11) and aerosol receptacle (claim 13) defined in appellant's claims on appeal. Moreover, we note that the examiner has not even attempted to explain how or why, based on the teachings of Burke, one of ordinary skill in the art would have found it obvious at the time of appellant's invention to select the many different variables involved in a manner so as to arrive at the particular nozzle defined in appellant's claims on appeal.

Since the examiner has failed to make out a *prima facie* case of obviousness, it follows that we will not sustain the rejection of claims 1 through 39 under 35 U.S.C. § 103(a) based on Burke.

In accordance with our discussion *supra* of the various rejections on appeal, we note that the only rejection sustained is that of claim 39 under 35 U.S.C. § 112, second paragraph. Thus, the decision of the examiner is affirmed-in-part.

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No time period for taking any subsequent action in  
connection with this appeal may be extended under 37 CFR  
§ 1.136(a).

AFFIRMED-IN-PART

*Charles E. Frankfort*

CHARLES E. FRANKFORT  
Administrative Patent Judge

*John P. McQuade*

JOHN P. McQUADE  
Administrative Patent Judge

*Jeffrey V. Nase*

JEFFREY V. NASE  
Administrative Patent Judge

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#### APPENDIX

1. A swirling effect nozzle having substance feed channels opening out into a swirling chamber communicating with an outlet orifice, wherein the ratio  $A_p/A_o$  is less than or equal to 0.5 and the ratio  $A_p/(D_s \cdot d_o)$  is less than or equal to 0.2;

where:

$A_p$  is the smallest total section offered by the channels to the passage of the substance;

$A_o$  is the section of the outlet orifice;

$d_o$  is the diameter of the outlet orifice; and

$D_s$  is the diameter of the swirling chamber.



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